



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,274	10/16/2001	Masato Fujinaga	50099-184	1996

7590 06/03/2003

MCDERMOTT, WILL & EMERY
600 13th Street, N.W.
WASHINGTON, DC 20005-3096

EXAMINER

ANDUJAR, LEONARDO

ART UNIT	PAPER NUMBER
----------	--------------

2826

DATE MAILED: 06/03/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/977,274	Applicant(s) FUJINAGA, MASATO	
	Examiner Leonardo Andújar	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-16 is/are pending in the application.
- 4a) Of the above claim(s) 9-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Acknowledgment

1. The amendment filed on 03/13/2003, paper no. 7, in response to the Office action mailed on 12/13/2002 has been entered. The present Office action is made with all the suggested amendments being fully considered. Accordingly, pending in this Office action are claims 1-3 and 5-16.

Election/Restrictions

2. Applicant's election of Group I (claims 1-8) in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Priority

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 11/16/2000. However, none of the certified copy and/or courtesy copy of the priority document has been received.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

Art Unit: 2826

matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose that the second conductor layer always transmits a ground potential.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Harari (US 5,198,380).

8. Regarding claim 1 (as understood), Harari (e.g. fig. 5f) shows a high-frequency semiconductor device comprising:

- A semiconductor substrate 563 having a main surface;
- A first wiring 504a provided over the main surface of the semiconductor substrate;

- And a conductor layer 509 continuously covering a periphery of the first wiring with a first insulator 567a interposed therebetween in a section crossing a direction of extension of the first wiring.

9. Harari shows that the conductor is a control gate. In reference to the claim language referring to the function of the conductor layer (i.e. to transmit a ground potential), intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In this case, the control gate is capable of transmits a ground potential.

10. Regarding claim 3, Harari shows that the upper surface of the conductor layer is flat.

11. Regarding claim 8, Harari shows that the first insulator, which covers upper and side surfaces of the first wiring and is provided in contact with the conductor layer, is formed of the same material.

12. Claims 1-3, 5, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida et al. (US 6,329,680).

13. Regarding claim 1 (as understood), Yoshida (e.g. fig. 6) shows a high-frequency semiconductor device comprising:

- A semiconductor substrate 1 having a main surface;

- A first wiring 5 provided over the main surface of the semiconductor substrate;
- And a conductor layer (12, 17 and M1) continuously covering a periphery of the first wiring with a first insulator (8-10) interposed therebetween in a section crossing a direction of extension of the first wiring.

14. Yoshida shows that the conductor is connected to the impurity region 11d. In reference to the claim language referring to the function of the conductor layer (i.e. to transmit a ground potential), intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In this case, the source/drain connections are capable of transmit a ground potential.

15. Regarding claim 2, Yoshida shows a second wiring BL1 provided over the main surface of the semiconductor substrate with an insulating film 10 interposed therebetween, the conductor layer continuously covering upper and side surfaces of the second wiring with a second insulator (14, 13) interposed therebetween in a section crossing a direction of extension of the second wiring and being connected to the semiconductor substrate via the plug 12.

Art Unit: 2826

16. Regarding claim 3, Yoshida shows that an upper surface of the conductor layer is flat.

17. Regarding claim 5, Yoshida shows that the conductor layer continuously covers a periphery of the second wiring in cooperation with the semiconductor substrate with the second insulator and insulting film interposed therebetween in the section crossing the direction of extension of the second wiring.

18. Regarding claim 7, Yoshida shows that a portion of the second insulator which covers the upper and side surface of the second wiring is provided in contact with the conductor layer is formed of the same material.

19. Regarding claim 8, Yoshida shows that the first insulator, which covers upper and side surfaces of the first wiring and is provided in contact with the conductor layer, is formed of the same material.

Allowable Subject Matter

20. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

21. Applicant's arguments filed 03/27/2003 have been fully considered but they are not persuasive.

22. Applicant argues that Harari does not disclose the claim invention because the conductor layer 509 is a control gate, and cannot be considered as the equivalent of a conductor layer, which always transmits a ground potential. Initially, the claim language referring to the function of the conductor layer (i.e. to

transmit a ground potential) is considered an intended use. Intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In this case the intended use does not result in any structural difference between the claim invention and the prior art. Also, the conductor layer disclosed by Harari is capable of transmit a ground potential because it is a control gate. In any case, the specification as originally filed does not contain any disclosure regarding a conductor layer that always transmits a ground potential.

23. Applicant argues that Yoshida does not disclose the claim invention because the conductor layer 12, 17, and M1 is connected to a source/drain, and cannot be considered as the equivalent of a conductor layer, which always transmits a ground potential. Initially, the claim language referring to the function of the conductor layer (i.e. to transmit a ground potential) is considered an intended use. Intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a

Art Unit: 2826

manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In this case the intended use does not result in any structural difference between the claim invention and the prior art. Also, the conductor layer disclosed by Yoshida is capable of transmit a ground potential because it is connected to the source/drain. In any case, the specification as originally filed does not contain any disclosure regarding a conductor layer that always transmits a ground potential.

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

25. Papers related to this application may be submitted directly to Art Unit 2826 by facsimile transmission. Papers should be faxed to Art Unit 2826 via the Art Unit 2826 Fax Center located in Crystal Plaza 4, room 3C23. The faxing of

Art Unit: 2826

such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit 2826 Fax Center number is **(703) 308-7722** or **-7724**. The Art Unit 2826 Fax Center is to be used only for papers related to Art Unit 2826 applications.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Leonardo Andújar** at **(703) 308-0080** and between the hours of 9:00 AM to 7:30 PM (Eastern Standard Time) Monday through Thursday or by e-mail via Leonardo.Andujar@uspto.gov. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn, can be reached on (703) 308-6601.

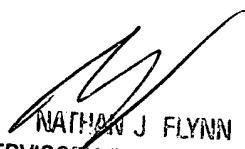
27. Any inquiry of a general nature or relating to the status of this application should be directed to the **Group 2800 Receptionist** at **(703) 305-3900**.

The following list is the Examiner's field of search for the present Office Action:

Field of Search	Date
U.S. Class / Subclass (es): 257/758, 774 and 778	05/03
Other Documentation:	
Electronic Database(s): East (USPAT, US PG PUB, JPO, EPO, Derwent, IBM TDB)	05/03

Leonardo Andújar

Patent Examiner Art Unit 2826

LA
5/29/03
NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800